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ABSTRACT

This study examined faculty views in regard to support for teaching at Emory University. Data were obtained from 24 small focus groups of faculty who discussed their reactions to a report on teaching at the university. The data were analyzed using HyperRESEARCH software to generate detailed reports on frequencies of categories, subcategories, and Boolean combinations of these. It was found that the most frequently discussed themes included evaluation, making teaching a priority, faculty development, infrastructure, and rewards for teaching. Faculty seemed to view evaluation of teaching as either an impossible mission or an activity with a questionable potential for teaching improvement. In nearly a third of the focus groups, faculty called on the university to increase its commitment to redefine the role of teaching. In nearly half of the discussions, faculty affirmed support for the concept of central resources to improve teaching, while some faculty felt that the school's existing facilities did not support excellent teaching. In nearly half of the focus groups faculty noted that the incentives seemed insufficient to reward excellent teaching. (Contains 27 references.) (MDM)

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By Susan H. Frost and Daniel Teodorescu
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Paper presented at the 20th Annual European Association of Institutional Research (EAIR) Forum in San Sebastian, Spain, 9-12 September 1998.

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Faculty Views on Support for Teaching: Using Qualitative Data Analysis Software to Investigate Focus Group Discussion

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September 1998

Abstract

This paper reports on a study of faculty views regarding support for teaching at Emory University. Data was gathered during focus group discussions in twenty-four small groups of faculty. Qualitative analysis of summary reports filed by each group facilitator involved three stages. First, the summary reports were used to develop individual case studies. Second, using an intersubjective open coding approach, contents of reports were analyzed to produce coding categories. Third, the HyperRESEARCH software was used to generate detailed reports on frequencies of categories, subcategories, and Boolean combinations of these.

Coding categories were based both on the frequency of occurrence in transcripts and on questions that guided the conversations. The categories were (1) evaluation; (2) making teaching a priority; (3) faculty development; (4) infrastructure; (5) rewards for teaching; (6) students; (7) local implementation; (8) teaching as a multifaceted activity; (9) support for an intellectual community; (10) interdisciplinarity; and (11) institutional mission and outcomes.

Preliminary results suggest that HyperRESEARCH can be used effectively to conduct qualitative research on focus groups. Ways HyperRESEARCH can facilitate hypothesis testing are considered in the last section of the paper.

Introduction

Typically, qualitative research involves the collection and analysis of the contents of an unstructured exchange or set of exchanges for the purpose of detecting themes, categories, hypotheses, theories, or mere descriptions of social life (Kelle, 1997). Since the methodology was developed, most of the effort researchers have allocated to qualitative analysis has been devoted to coding or indexing, an activity that requires extensive reading, rereading, interpreting, and comparing passages of text. In the early days of qualitative analysis, this coding was done by hand, requiring researchers to cut apart passages of text and reassemble them in new ways. However in the early 1980s, a tool was developed to ease this work. This tool, qualitative data analysis software (QDAS), has made researchers' coding tasks considerably easier. It has also allowed researchers to investigate avenues of more complex inquiry than was possible during the cut-and-paste coding era of qualitative analysis.

However, accounts of qualitative analysis in higher education in general and university planning in particular are rare, with the bulk of such research being conducted in sociology and ethnography. In higher education qualitative analysis is most commonly used to investigate trends in methodologies, themes, status of the profession, and paradigms employed by researchers in the field. For example, in 1988 Volkwein analyzed journal articles published in

the journal *Research in Higher Education* over a 15-year period; and in 1996 Dimitroff explored the topics of journal articles in the field of undergraduate medical education. Researchers have also used content analysis to investigate collections of conference proposals (Faber, 1996), conference papers (Lincoln, 1984), doctoral dissertations (Kantorski, 1995), and even position descriptions in the *Chronicle of Higher Education* (Broyles, 1988). Other qualitative studies focus on students or alumni, often using data that are less typically thought of as documents: alumni entries to reunion class books (Zweigenhaft, 1992), reports of racially motivated harassment and violence experienced by minority students on predominantly white college campuses (Farrell et al., 1988), or student-instructor communication via computer conferencing (Mowrer, 1996).

Qualitative analyses for the purpose of informing policy-making in higher education (or action research studies) are more scarce, due in part to the lower status most administrators attach to them compared to quantitative analyses. However, Frost, Hearn and Marine (1997) used qualitative methods to investigate state policy and admission practices in the University of North Carolina system. In addition to analysis of interview data, they studied the content of official documents and press articles that concerned the issues under investigation. Goldsmith (1995) conducted an ethnographic study of the creation of a new public university, California State University, Monterey Bay (CSUMB), to highlight challenges the founders faced as they built a collective identity and analyze the transformation of values into organizational realities. Grover et al. (1985) examined activities and trends at 53 offices of research in medical education by analyzing information on goals, organizational relationships, and funding efforts devoted to various educationally related activities and current research endeavors. Bognanno et al. (1978) studied collective bargaining agreements by investigating the union management contracts in higher education negotiated between 1967 and 1975, and more recently Rhoades (1996) examined such agreements for 183 higher education institutions or systems. In 1995 Barrette et al. analyzed the perceptions of non-instructional staff at the University of Michigan.

On the other hand, many studies of faculty motivations and expectations are quantitative analyses. For example, in 1995 Blackburn and Lawrence used data from a national survey conducted by the National Center for Research to Improve Postsecondary Teaching and Learning to investigate the nature of faculty work.

In recent years much has been written about using computer packages to analyze qualitative data, and some critics have focused on the influence of the tool on the analytic process. Less common in the literature, however, are descriptions of precisely how individual software packages have been used in actual research projects.

The purposes of this study are to (1) extract the meaning from a body of faculty opinion and organize it to inform decision making (2) demonstrate how qualitative analysis can be used to investigate the in-depth and often unorganized data resulting from focus group discussions on the same topic. The qualitative data analysis software (in this case HyperRESEARCH) was used to produce the analysis. The software seemed to be an effective tool for such a purpose, especially when quantitative methods will not give the needed results. Typically, focus group discussions are rich in context and the array of opinions that are derived through exchange (Albrecht, Johnson and Walther, 1993). Quantitative methods are not designed to capture these elements of data. In this analysis, some sense of the array of opinions is a central outcome of the investigation.

Background

Over the last five years, Emory University has systematically organized and conducted a series of discussions among faculty focused on various topics related to the shape of Emory's future and the nature of its community. Each year faculty are chosen at random from employment rolls to receive an invitation to participate in the series. From year to year, the choice of the discussion topics has followed a natural progression, with each year's series becoming increasingly focused on strategies to improve the university. In 1993, the first discussion series had a relatively broad scope. They were designed to gauge faculty opinion about the strengths and weaknesses of the university. Based on a manual analysis of a summary of each discussion, five areas emerged as the topics most frequently addressed: (1) the balance between teaching and research, (2) building a stronger community, (3) encouraging interdisciplinary scholarship, (4) keeping pace with the infrastructure needs, and (5) assessing Emory's external relationships (Office of the Provost, Emory University, 1994). These topics constituted the main themes for the 1994 discussion series; faculty who participated in the discussion series chose among the five topics when they confirmed attendance at a focus group meeting.

In 1994 approximately half of all faculty who participated in the focus group discussion series chose to discuss the balance between teaching and research. Accordingly, both the provost and the president of the university recognized the importance of this issue and eventually created a faculty commission on teaching to address Emory's needs. They charged the commission with examining the most critical issues related to the support and improvement of teaching and with making specific recommendations for improvement. In 1996, commission members conducted the series of faculty focus group discussions, with all discussions concerned about various

aspects of teaching quality and improvement. After 18 months of work, the commission produced a report, *Teaching at Emory* (Commission on Teaching, Emory University, 1997). Based in part on faculty opinion expressed in the 1996 discussion series, the report puts forward recommendations for future action. (For a more detailed description of planning at Emory, see Frost, 1998.)

In 1997, focus group discussions concerned faculty reaction to the recommendations. The summaries of each discussion, written by commission members serving as faculty facilitators, provide the data for this study. Before 1997, summaries of focus group discussions were analyzed manually, resulting in a less systematic approach. In 1997, researchers used qualitative data analysis software (HyperRESEARCH) for the first time.

What advantages does HyperRESEARCH offer? First, in practical terms HyperRESEARCH makes possible a thorough and systematic investigation of a volume of text, or data, within the time constraints that real world decision making imposes. Whereas manual qualitative analysis depends on the time consuming cut-and-paste approach, HyperRESEARCH allows investigators to produce summaries in a timely fashion. Second, in the course of the analysis, if researchers need to change or refine code definitions, the process is an easy one. Third, HyperRESEARCH and other third generation qualitative data analysis software allow for more complex retrieval strategies and hypothesis testing than manual coding can support.

It is important to note that in this project, all focus group discussions were structured around a set of planned questions. In our experience, this requirement is related to the quality of the outcomes. Without an established set of themes around which researchers can build the coding scheme, the analysis could fail to prove useful. Unstructured discussions are likely to yield few codes that are common across the groups. This characteristic could limit the researchers' capacity to make inferences from the data and thus restrict the usefulness of the project.

Data analysis

The data in this study are 24 summary transcripts of faculty focus group discussions written by the faculty facilitators of those discussions. Figure 1 shows the steps undertaken in our qualitative analysis of the data. The coding process consisted of first reading through the data several times to become familiar with the raw information. Then, using a sample of four transcripts, researchers compared all texts, looking for similarities or patterns. We repeated the process for another sample, and compared similarities between the two samples to produce

preliminary themes. As themes (or categories) became apparent, researchers refined them and created sub-themes (or subcategories).

Then we developed codes based on a set of preliminary themes and using a process similar to 'open coding' described by Strauss and Corbin (1990). Specifically we applied code categories either drawn from our common-sense knowledge of the topic, introduced by discussion participants, or referring to main themes of the commission report. As the scheme of code categories became complete, we discovered that most categories reflect major themes of the report.

To manage the codes, we used the code-and-retrieve method (Richards and Richards, 1991). This approach produces a coding framework that can expand as new categories are discovered. It requires that already-processed data be relabeled when a more meaningful or comprehensive label is created. Fortunately, HyperRESEARCH makes the expansion of categories relatively easy; old codes can be deleted, renamed, or collapsed into new codes, which are applied to text already processed.

The next step was to determine the reliability (or consistency of judgment of the coders) of the emerging codes. To verify the reliability of the codes and limit subjectivity, three researchers with different backgrounds and knowledge of the commission report identified themes and coded the same transcripts independently. Then we compared the work of all researchers and found that although we used different wording in creating codes, the degree of consistency was high enough to infer that the set of themes or categories was reliable.

Next we applied the codes emerging from the two samples to the remaining transcripts. This stage also served as a test of code validation, confirming that the themes identified were not episodic or idiosyncratic occurrences. We used the final codes to construct a coding matrix, with themes of discussion forming rows and comment types forming columns. We found twelve major themes into which the data appeared to fall naturally. These themes formed the rows of the matrix: (1) evaluation, (2) making teaching a priority, (3) faculty development, (4) infrastructure, (5) rewards for teaching, (6) students, (7) local implementation, (8) teaching as a multifaceted activity, (9) support for intellectual community, (10) interdisciplinarity, (11) institutional mission and outcomes, and (12) technology.

For each theme, participants' comments were categorized as either (1) criticisms of the report; (2) agreements with the report; (3) problems not identified in the report; and (4) recommendations for implementation. The categories formed the columns of the matrix. In some instances, it was difficult to identify a comment as either a criticism or a problem; and we attached more than one code to these segments.

For each major theme of discussion we created a hierarchy of subcategories. To ease code manipulation and retrieval, we assigned to each cell in the matrix (or subcategory) a unique alphanumeric code that allowed easy identification of both the themes of discussion and types of comments that subcategory described. For instance, *R21 Increase Staff Support* indicates that the type of comment is recommendation (*R* for Recommendation) and belongs to the Infrastructure theme (all the numeric codes between 20 and 39 were assigned to that theme).

Throughout the coding process, we continually examined the transcripts for patterns and relationships between categories. For example, following one work session we added three new columns to the matrix: quotes, bright ideas, and the name of the school of the university to which the comment pertains. This provided the capacity to locate, for each theme of discussion, the most inspiring quotes and the brightest ideas contributed by the discussants; and documented how participants in different schools of the university received the report. Before finalizing the coding scheme, we completed three revisions. Had revision required manual processes, we would still be working on the project! However, HyperRESEARCH allowed us to revise and expand the coding scheme in minutes rather than hours or days.

Having completed the coding task, we were ready to use HyperRESEARCH's statistical reporting capabilities to summarize the discussions. Code analysis included code grouping (using the "OR" Boolean operator) and frequency analysis (see Figure 2).

Specifically, we addressed the following research questions:

(1) What themes received most attention?

(2) What were the scope and breadth of discussions? Were the discussions limited to only one or two themes of the report? Or, did they address a multitude of concerns?

(3) What were the most frequent criticisms, problems, agreements, and recommendations in each of the twelve themes? What was learned that can inform university progress?

An illustration of the coding process

Rewards for Teaching is one theme that occurred frequently in many conversations, and we use it to illustrate in detail how codes evolved. First, the theme remained in the final set because it occurred in almost every transcript in both sets of samples we coded initially. We discovered it in both samples by investigating the similarities among the following codes: *base*

tenure discussions on teaching performance, base promotion decisions on teaching performance, reward good teaching by establishing teaching professorships and chairs, and *base pay increases on teaching performances.* As one can see, the concept of reward for good teaching is the unifying theme across these recommendations. These codes passed the reliability test because they made the list of codes for each of the three researchers.

Next, we applied the *Rewards for Teaching* theme and its corresponding codes to the remaining transcripts. It occurred in 16 of the 24 transcripts. In some sentences, phrases related to the underlying theme could not be coded using the codes established through the initial samples. For example "award free parking spots to good teachers" fits the theme *Rewards for Teaching* but does not fit an initial code. When this lack of fit occurred, we created a new code and returned to the sample transcripts to verify their occurrence there as well.

To develop a coding scheme that is easy to read and administer, we prefixed all the codes with a letter that indicates the type of statement made: C for Criticism of the report, R for Recommendations, A for agreements with the report, and P for Problems not identified in the report. Later in the analytical process, this classification allowed us to group together all criticisms and recommendations, for example. It also helped us structure the findings of the study.

Results

Using the process described in the previous section, researchers found that the most frequently discussed themes were *Evaluation, Making Teaching a Priority, Faculty Development, Infrastructure*, and *Rewards for Teaching*. Notably, all 24 groups allocated a large part of the discussion to the issue of how to evaluate teaching (see Table 1). Often reliance on focus group discussion is criticized in the literature because of the possible "group thinking" effect that can occur in such settings. In this case, however, the breadth of the discussion demonstrates a lively interaction where problems, criticisms, agreements, and recommendations are not limited to only one or two themes. As Table 2 shows, all 24 groups tackled at least six major themes of the commission report. Having identified the most frequently discussed themes, researchers turned to a more detailed analysis of the problems, criticisms, agreements, and recommendations for implementation associated with each major area of concern.

Evaluation of Teaching. Discussed in 100 percent of the focus groups, faculty seemed to view the evaluation of teaching as either a "mission impossible" or an activity with a questionable potential for teaching improvement. Many faculty expressed the view that effective professional development opportunities should precede the adoption of a new evaluation system in any university-wide efforts to improve teaching. The code *Evaluation Difficult and/or Not Needed* came up in 10 of the 24 conversations.

The reluctance that many faculty expressed toward a more systematic evaluation of teaching might be related to a perception, commonly held among discussion group members, that the intended purpose of such evaluation is to judge performance rather than to guide development or define support. That is, some faculty seem to believe that department chairs and deans will use the results of evaluation to make judgments about promotion, tenure, or salary increases rather than as a feedback to guide improvement (6 conversations).

Another potential objection might be related to the perception that evaluation requires faculty to devote more time to assembling documentation and less time to actual teaching (10 conversations). Faculty also expressed concern that promotion and evaluation guidelines in most departments clarify neither the role of teaching nor its evaluation
(8 conversations).

The idea of introducing teaching portfolios received attention in 11 cases. The main arguments against using such a tool seemed related to the additional pressure it might create on faculty members' time. Peer evaluation ranked as one of the most frequently recommended tools (7 conversations); at the same time, discussants criticized peer evaluation in almost the same number of instances. The ideas of interviewing exiting students and graduating seniors as well as conducting periodic surveys of alumni were well supported across the discussions (with practically no criticism).

Making Teaching a Priority. In almost a third of the discussions, faculty called on the university to increase its commitment to redefine the role of teaching. Some called for changes in existing incentive systems, improved physical infrastructure, and more effective faculty development programs. One of the most desired changes concerned greater commitment to protecting faculty time. Some participants suggested that this could be achieved either by increasing the size of the faculty (6 cases) or by decreasing course loads for each faculty member (4 cases). In general, faculty seemed to feel that the conversation about teaching was beneficial and should be continued (6 cases).

However, in one third of the conversations, discussants raised the possibility that the university advanced the perception that teaching is undervalued for the purpose of stimulating

the conversation. These discussants contended that teaching at Emory has always been excellent and, therefore, change is not needed. Some faculty felt that the report underemphasized the role research plays in achieving excellence and treated teaching and research as separate rather than related activities. Others objected to the report's description of teaching as a vocation (in 7 conversations). Obstacles to making teaching a priority included conflicts between teaching and research (13 cases) and constraints on faculty time (12 cases).

Faculty Development. In more than half the discussions, faculty affirmed support for the concept of central resources to improve teaching. However, there appears to be support for such central resources only if those resources are not organized from the top down, but at the local levels of the schools and departments. Some discussants suggested the idea of a university center for teaching and offered recommendations regarding the roles that such a center might accommodate. The most frequently anticipated assistance concerned help for faculty to learn how to use the newly-proposed evaluation methods, particularly in preparing teaching portfolios.

Release time or sabbaticals for teaching improvement was the next most recommended direction for improvement (mentioned in 7 discussions). Mentoring was also seen as an effective faculty development initiative (5 cases). Interestingly, the main reservation about its implementation had to do with the manner in which mentors will be selected; some protested that some senior faculty are not the most appropriate role models.

Infrastructure. Almost half the conversations concerned Emory's buildings and classrooms. Some believe that existing facilities do not adequately support excellent teaching and the type of informal faculty-student interaction that is assumed to foster intellectual community. Specific criticisms concerned the perceptions that there is not enough classroom space and the design and the allocation of existing space are not well tailored to the needs of the program it houses. In addition to inadequate numbers of classrooms, a lack of basic teaching supplies and insufficient staff support (i.e., research assistants, teaching assistants, and secretarial support) also emerged as serious concerns.

Rewards for Teaching. As one facilitator noted, "The single most important factor in implementing the goals of *Teaching at Emory* was felt to be the development of adequate rewards." Faculty in 11 of 24 conversations noted that the incentives seem insufficient to reward excellent teaching. Critics most frequently referred to the fact that decisions about tenure, promotion, and salary increases, do not account for teaching excellence adequately. Specific recommendations included yearly raises, special parking spaces, teaching professorships or endowed chairs, and promotion and tenure based mainly on excellence in teaching. Counting teaching in tenure and promotion decisions and salary increases as well as establishing teaching

professorships were the most frequently recommended incentives.

Students. Two major issues in this area concerned unprepared students and grade inflation. Discussants proposed the following strategies: expect more of students (6 cases); establish university wide grade standards (2 cases); and emphasize learning over teaching (3 cases). Almost universally, discussants noted that the report places the burden of change on faculty instead of students. The improvement of student learning should be as important as the improvement of teaching.

Local Implementation. In almost half of the conversations, faculty recommended decentralization of both the dialogue on teaching and the implementation of the report's recommendations. They expressed hope that change would take place not at the university level, but in the schools, departments, and programs. In almost a third of the conversations, faculty expressed concern that many initiatives to improve teaching recommended central implementation without specific attention to individual programs.

Teaching as a Multifaceted Activity. In 10 cases, faculty wished for more complete coverage of the issue of teaching as a multifaceted activity and more thorough exploration of the implications of raising the priority of teaching in the schools and programs.

Support for Intellectual Community. In 9 cases, faculty identified several problems concerning the report's call for building a strong intellectual community. Concerns ranged from the difficulty of measuring the culture to the perception that parts of the undergraduate experience need more intense academic rigor to low participation in some campus events. Recommendations include building informal places for faculty and student interaction, and studying other universities that are known as strong intellectual communities.

Interdisciplinarity. In five cases, faculty expressed concern with strategies to foster interdisciplinary teaching. Considering the diversity of the campus, some participants stressed the difficulty of reaching into different schools, the lack of sufficient incentives for collaboration, and the fear that the promotion of interdisciplinarity might deprive faculty of its organic relationships.

Institutional Mission and Outcomes. In 6 cases, faculty suggested that the need to clearly define and disseminate to prospective students and to the Emory community the university's mission and educational goals is essential to the implementation of the report. Departments should develop consensus about their own teaching goals and communicate their views clearly to various publics.

Limitations and future direction for research

One limitation of this qualitative analysis lies with the fact that the data took the form of summaries of discussions and not full transcripts of each conversation. Had transcripts been available, important and potentially insightful clues about both the development of ideas and the nature of faculty interaction would have been documented. However, transcripts were not available, so specific exchanges between individuals were not part of the data.

Therefore the code-retrieval approach fails to capture and recognize some important events typically described in the market research literature on focus groups. For example, according to Gordon and Langamaid (1988), there is a sequence to a focus group discussion that can help explain the different kinds of interaction at the beginning (forming and storming), the middle (performing) and the end (mourning). Furthermore, participants sometimes contradict themselves in the course of a discussion or change their views and opinions in light of the opinions of others.

As Catterall and Maclaran (1997) argue, by attempting to code the dynamics of a conversation, further analysis of the interaction in focus groups could reveal: 1) the shared language on the topic, what was taken for granted, and what clarification were asked; 2) the beliefs and myths about the topic that are shared, taken for granted, and are challenged; 3) the arguments participants use when their views are challenged; 4) the sources of information one uses to justify views and experiences and how others respond to these; 6) the arguments, sources, and types of information that stimulate changes of opinion or reinterpretation of experiences; 7) the tone of voice, body language, and degree of emotional engagement involved when participants talk to each other about the topic.

In our case, using transcripts and not summaries would allow us to investigate the extent to which faculty cite, for example, their past experiences at other institutions when making recommendations for teaching improvement. An analysis of the tone of voice and degree of emotional engagement to contested recommendations in the commission report could be equally revealing.

Unfortunately, most software packages (including HyperRESEARCH) do not permit researchers to code both the interaction in focus groups and the content of the discussion simultaneously. One would have to work with the complete transcript as an off-screen document in order to identify the events described above. Instead of analyzing summaries from facilitators, one would have to use word-by-word transcripts of individual comments along with complete descriptions of the interaction.

The second limitation of this study is that it does not fully exploit the various possibilities for theory building or hypothesis-testing that HyperRESEARCH and other third generation qualitative analysis software make possible. However, the purpose of the study is to describe, not to explain. Explanatory attempts should employ more complex retrieval strategies, or techniques that help locate text segments according to document-specific variables such as the department of employment, gender, or tenure status of a participant. Known as selective retrieval, the technique would allow, for example, one to systematically compare the attitudes toward evaluation of tenured versus non-tenured faculty or the views about teaching of faculty from different professional schools. Another useful but complex retrieval technique uses information on whether text segments coded with certain codes co-occur in a given document; the goal is to 'test' hypotheses which are derived from the emerging theory (Hesse-Biber and Dupuis, 1995). For example, having documented faculty opinions on teaching evaluation with codes such as *Evaluation Difficult or not Need*, *Fear of Summative Evaluation* or *Evaluation is Time Consuming;* we might examine the hypothesis that the rejection of teaching evaluation is always or frequently accompanied either by the fear that its results will be used punitively or by the concern that it will take time from teaching. The co-occurrence of codes in a given case may indicate the presence of critical evidence for or against a hypothesis.

Conclusions

This analysis shows how researchers can extract meaning from a series of structured discussions among one constituency of a community for the purpose of informing change in that community, and how this process can be completed in time to allow the results influence real world activity. Although this example involves faculty participants in a university community, the same approach could be used to gather and analyze opinions from other groups in a university or in other types of communities.

Although the investigation is in many ways exploratory, it suggests that the content analysis of focus group discussions can be as or more appropriate than traditional survey research for analyzing such opinions. One expected outcome of such discussions is a more reflective and connected community. The study suggests that the process has some capacity to build community, especially when discussion is unconfined, feedback is timely, and leads to change. It opens avenues of future research on the nature of effective change.

Such change is more likely to be effective when leaders seek community participation and acceptance of new ideas. The process described here fits well with administrative realities

and exceeds the usual standards of the data that help support many decisions. Accordingly, the outcome of this process is real world input for real world decision-making.

The study also suggests that focus group data can offer a valuable, flexible resource to institutional researchers. Third generation qualitative data analysis software such as HyperRESEARCH™ supports flexible coding and hypothesis-testing and can allow researchers to organize and learn from collections of information that to this point have been largely unused.

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Figure 1. Steps in coding

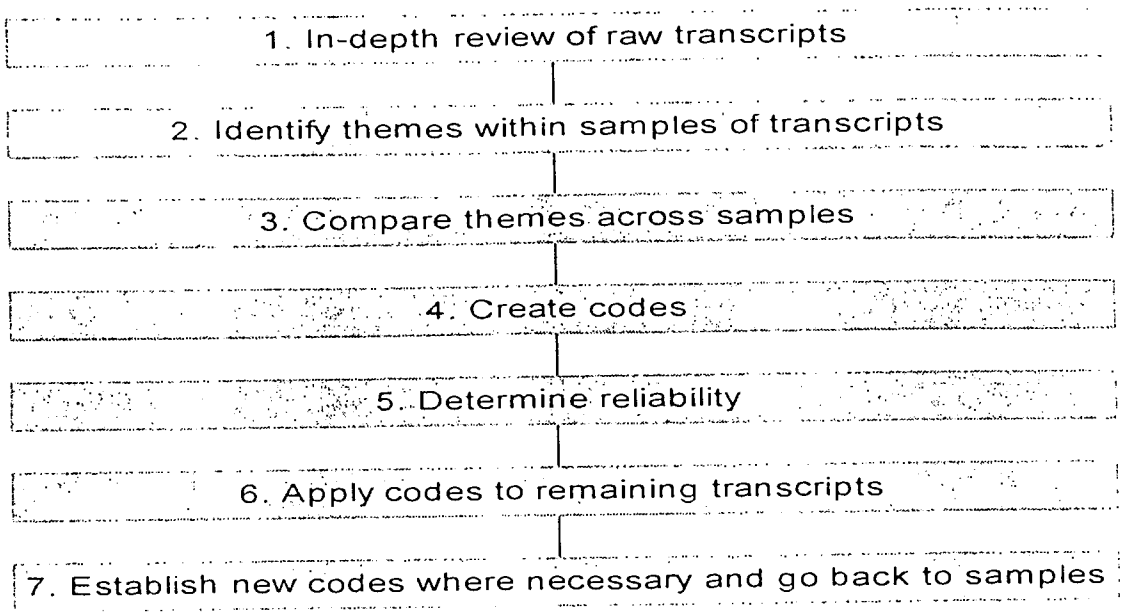

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Figure 2. Strategies for Code Analysis

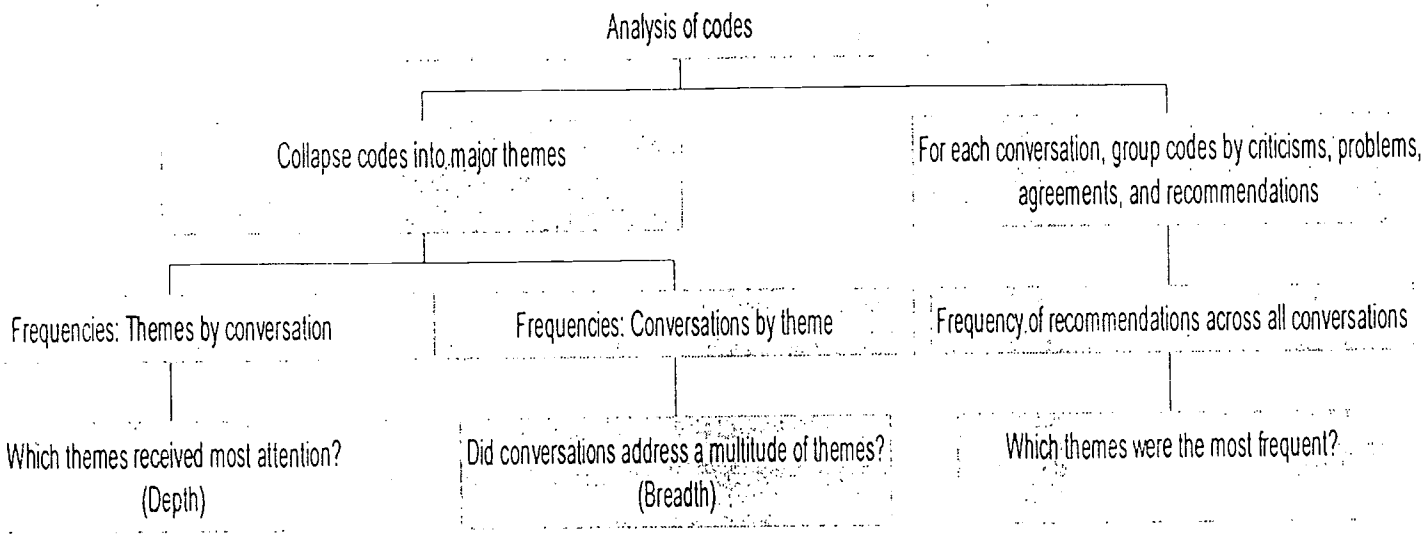

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Table 1. Themes discussed most frequently

Themes	Number of Conversations	% of Conversations (n=24)
1. Evaluation of Teaching	24	100%
2. Making Teaching a Priority	23	96%
3. Faculty Development (strategies for teaching improvement)	20	83%
4. Infrastructure (classrooms, scheduling, and other)	19	79%
5. Rewards for Teaching Excellence	16	67%
6. Quality of Student Population	14	58%
7. Local Implementation	13	54%
8. Teaching as a Multifaceted Activity	12	50%
9. Support for Intellectual Community	9	37%
10. Interdisciplinarity	8	33%
11. Institutional Mission and Outcomes	4	17%

Table 2. Number of Themes by Conversation

Number of Themes Discussed	Conversations N	Conversations %
6	8	25%
7	4	17%
8	3	13%
9	2	8%
10	5	21%
11	1	4%
Total	24	

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